

## The Spallation Neutron Source

(SNS) is a new, accelerator-based science facility that will provide neutron beams with up to ten times more intensity than any other such source in the world. SNS will provide opportunities for up to 2000 researchers each year from universities, national labs, and industry for basic and applied research and technology development in the fields of materials science, magnetic materials, polymers and complex fluids, chemistry, and biology.

**Who is building SNS?** SNS is being designed and constructed by a partnership of six U.S. Department of Energy (DOE) national laboratories (Argonne, Brookhaven, Jefferson, Lawrence Berkeley, Los Alamos, and Oak Ridge). Oak Ridge National Laboratory in Tennessee is responsible for the civil construction, project management, design integration, and ultimately for operating the SNS. The other participating laboratories are responsible for design and construction of major technical subsystems that make up the facility.

**Where is SNS being built?** SNS is being constructed on Chestnut Ridge, an 80-acre site at Oak Ridge National Laboratory in Oak Ridge, Tennessee.

**When will SNS be built?** Construction of SNS began in December 1999 and is scheduled for completion in 2006.

**How much will SNS cost?** SNS is funded by the DOE Office of Science for a total cost of \$1.4 billion.

**Who will use SNS?** Like other DOE user facilities, SNS will be open to scientists and engineers from universities, industries, and government laboratories in the United States and abroad.

**Who will work at SNS?** When completed, about 400 permanent staff will be employed at SNS. Many more will be involved in construction of the facility.

**Why build the SNS?** Most of the world's neutron sources were built decades ago using technology of that era. The uses and demand for neutrons have increased throughout the years, and new, modern sources are required to meet this demand. Basic research and development conducted at SNS will lead to technological and industrial breakthroughs that will ultimately benefit not only the U.S. scientific community but also the business and industrial communities.

**What does this mean to me?** Most people don't realize how much neutron-scattering research affects our everyday lives. For example, things like aircraft; credit cards; pocket calculators; compact discs, computer disks, and magnetic recording tapes; shatter-proof windshields; adjustable seats; and satellite weather information for forecasts have all been improved by neutron-scattering research. Neutron research also provides insight into the behavior of materials used in biological systems, pharmaceuticals, high-temperature superconductors, powerful light-weight magnets, aluminum bridge decks, and stronger, lighter plastic products.

